

TCAP Writing Operational Test

TCAP/WA

DIRECTIONS

In a few moments, you will see a passage(s) and a prompt. You are to plan and write an essay about the passage(s) according to the instructions provided in the prompt. This activity will show how well you write. Express your thoughts clearly and make your writing interesting to the reader. Your essay will be scored as a rough draft, but you should watch for careless errors.

Before writing, spend some time reading the passage(s), thinking about the prompt, and planning your thoughts.

WRITE ONLY ON THE PROMPT AND PASSAGE(S) YOU ARE GIVEN.

The time you have for writing is 60 minutes.

PROMPT F – GRADE 8 WRITING ASSESSMENT
TENNESSEE COMPREHENSIVE ASSESSMENT PROGRAM (TCAP)
2013 OPERATIONAL TEST

The following passage explains the remarkable discovery of an Earth-like planet in another solar system.

Water World: New Super-Earth Found near Distant Star
by Ned Potter of ABC News

Planet GJ 667Cc is believed to be a super-Earth, capable of having liquid water.

Pack your bags. But leave the bottled water behind; you might not need it.

Scientists have found a planet orbiting another star—22 light-years away—and of all the hundreds of so-called exoplanets so far discovered, this one is, lead researcher Guillem Anglada-Escude said, “the new best candidate to support liquid water and, perhaps, life as we know it.”

The planet is labeled GJ 667Cc, found in the constellation Scorpio, and it would seem at first to be a very alien world. It is about five times more massive than Earth. It orbits its host star in only 28 of our days.

But that star is smaller and dimmer than our sun, and most of the light it emits is infrared. Anglada-Escude says it would provide just the right amount of warmth for the planet to be temperate like ours.

“Other proposed candidates [to be watery worlds] would require very special conditions to support liquid water,” Anglada-Escude said in an email to ABC News.

The temperature, he said, is probably right regardless of the planet’s atmosphere or cloud cover: “This one lies within the zone where no further assumptions (or fine tuning) are required.”

Water is actually very common in the universe—but as ice or vapor, not flowing water that scientists say would probably be necessary for life as we know it. Comets, for instance, have been called “dirty snowballs,” and when they get close to the sun they develop gaseous tails. But the temperature range for flowing water—the liquid you would find in the cells of a living organism—is very small. Earth is the only planet we know of with the right temperature and atmospheric pressure.

Some serious cautions are in order, of course, when you're talking about a planet more than 100 trillion miles away. Scientists cannot see it; all they know is that its gravity pulls on its host star, causing the star to "wobble" slightly in a 28-day cycle. But because they know the star's mass, composition and brightness, they can do some math and figure out how far away the planet is likely to be.

GJ 667Cc would be a strange place if Earthlings could visit. If it has a solid surface, one would find its gravity crippling. Its sun would loom large in the sky, much larger than Earth's sun does, but it would be dimmer.

And there would be two other suns in the sky, although they orbit at a distance. One of them would be about as distant as Saturn is from us, the other five times farther away than Pluto is.

The one thing Earthlings would find familiar is the temperature. GJ 667Cc does not get fried the way planets like Mercury and Venus do, and it does not freeze like Jupiter or Pluto. Space researchers like to say it is in the "Goldilocks zone" around its sun, not too hot, not too cold, but just right.

"To know more, we'll probably need a space mission or a lot of luck," Anglada-Escude joked.

Anglada-Escude and Paul Butler led the research at the Carnegie Institution for Science in Washington. They and a dozen colleagues are publishing their work in *Astrophysical Journal Letters*.

They report they found the planet by looking through telescope data collected by HARPS, a rival group of planet hunters in Europe. Anglada-Escude said the HARPS group had observed the star three years ago and missed the planet.

"Of course, the HARPS team will not be very happy about this," Anglada-Escude said. "This might start a new trans-oceanic war."

"Water World: New Super-Earth Found near Distant Star," by Ned Potter. From <http://www.abcnews.go.com>. Published by ABC News. Used by permission.

READ THIS WRITING PROMPT CAREFULLY BEFORE YOU BEGIN YOUR WRITING.

Life on Another Planet

Write a narrative essay describing what steps a human would need to take in order to adapt to life on planet GJ 667Cc. Draw evidence from the passage to support your reflection. Use narrative techniques, as well as precise words and phrases, relevant descriptive detail, and sensory language to capture the action and convey the experiences and events of the traveler. Demonstrate command of the conventions of standard English, capitalization, punctuation, and spelling in your response.

You may use the space below for prewriting. However, only the lined pages of your answer document will be scored. You will have a time limit of 60 minutes.

This writing prompt must be returned with all test material.